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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,320	12/28/2006	Kentarou Kanae	292902US0PCT	1971

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EXAMINER	
COLLINS, ALVIN	

ART UNIT	PAPER NUMBER
4151	

NOTIFICATION DATE	DELIVERY MODE
04/15/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/584,320	KANAE ET AL.	
	Examiner	Art Unit	
	Alvin C. Collins	4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morikawa in view of Suzuki et al., JP02001200118A (hereinafter Suzuki, already of record) in further view of Beck et al., US 3,280,071 (hereinafter Beck).

5. Regarding claim 11, Morikawa teaches a thermoplastic elastomer composition including polysiloxane ("polysiloxane-containing composition [D]") comprising: an organopolysiloxane having a viscosity according to JIS K 2283 less than 10,000 cSt, and a denatured organopolysiloxane, a rubber, and a crystalline and/or amorphorous olefinic resin. The rubber as taught can be an ethylene/α-olefin copolymer rubber (page 12 paragraphs 0151-0153). Morikawa further teaches the relative parts by mass of the rubber, olefin resin, and softening agent, which are 20-69, 1-50, and 20-79 parts by mass, respectively. These ranges either overlap or fall within the limitations as claimed.

6. Morikawa fails to teach a vinyl-denatured polysiloxane specifically. Morikawa fails to teach the elastomer including a vinyl-terminated polysiloxane, i.e. a vinyl-denatured organopolysiloxane.

7. In the same field of endeavor, Suzuki teaches a thermoplastic elastomer composition including a diorganosiloxane where the ratio of the organic/silicon atoms is about 2. Suzuki further teaches the vinyl as a possible organic group (see paragraph 0023). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the thermoplastic elastomer as taught by Morikawa with the vinyl-terminated polyorganosiloxane of Suzuki for the benefit of producing a

thermoplastic elastomer with molding workability and improved abrasion resistance via dynamic crosslinking.

8. While the previous combination does not teach the polymerization degree, Beck teaches the art of producing silicone elastomers of formula (1) with a degree of substitution of 1.95-2.05 (see col. 1, lines 22-24). In an analogous art, Beck teaches the thermoplastic elastomer composition containing vinyl radicals (see col. 2, lines 25-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to so include the degree of substitution as shown in Beck, in the previous combination for the benefit of providing the resultant elastomer with improved crack resistance.

9. Regarding claim 12, Morikawa teaches the polysiloxane-containing composition [D] obtained by dynamically heat -treating in the presence of a crosslinking agent. This reads on the limitations of claim 12 (see paragraph 0156).

10. Regarding claim 13, Morikawa teaches a thermoplastic elastomer wherein the rubber is an ethylene/α-olefin copolymer rubber has a limiting viscosity [η] of 2.0 to 6.8 dl/g when measured at 135 C in decaline solvent. This reads on claim 13 (see paragraph 0024).

11. Regarding claims 14 and 15, Morikawa teaches the polysiloxane-containing composition [D]" as described above containing a mineral oil softener. Morikawa teaches the same composition which may include an extended rubber. The rubber and mineral oil softener is present at 30-70 mass percent. Morikawa further teaches the polysiloxane-containing composition [D] including an oil-extended rubber subjected to

dynamic heat treatment in the presence of a crosslinking agent, which reads on the limitations of claims 14 and 15 (see paragraph 0037).

12. Regarding claim 16, Morikawa teaches polysiloxane-containing composition [D] containing a mineral oil softener as described above wherein the rubber is an ethylene/α-olefin copolymer rubber has a limiting viscosity [η] of 2.0 to 6.8 dl/g when measured at 135 C in decaline solvent (see paragraph 0040). This reads on claim 16.

13. Regarding claims 19-22, Morikawa suggests the thermoplastic elastomer, with and without and extended rubber (see rejections above), has suitable processibility for injection molding, extrusion molding, blow molding, compression molding, vacuum molding, laminate molding, or calendar molding. The possible products fabricated from the molding process include a weather strip (see paragraphs 0046-0047). This reads on the limitations as claimed.

14. Regarding claims 17 and 18, Morikawa teaches a thermoplastic elastomer composition including a denatured organopolysiloxane or a graft polymer including an organopolysiloxane and an acrylic acid ester (see paragraph 0171). Morikawa fails to teach the elastomer including a vinyl-terminated polysiloxane, i.e. a vinyl-denatured organopolysiloxane. In the same field of endeavor, Suzuki teaches a thermoplastic elastomer composition including a diorganosiloxane where the ratio of the organic/silicon atoms is about 2. Suzuki further teaches the vinyl as a possible organic group (see paragraph 0023). While Suzuki does not teach the polymerization degree, Beck teaches the art of producing silicone elastomers of formula (1) with a degree of substitution of 1.95-2.05 (see col. 1, lines 22-24). It would have been obvious to one

having ordinary skill in the art at the time the invention was made to combine the thermoplastic elastomer as taught by Morikawa with the vinyl-terminated polyorganosiloxane of Suzuki with the polymerization degree as taught by Beck for the benefit of producing a thermoplastic elastomer with molding workability and improved abrasion resistance via dynamic crosslinking.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 7,105,600 B2

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin C. Collins whose telephone number is (571) 270-7734. The examiner can normally be reached on Monday through Thursday, 7:30 am - 5:00 pm EST and on alternate Fridays from 7:30 am - 4:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on (571) 272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alvin C. Collins/

/Angela Ortiz/
Supervisory Patent Examiner, Art Unit 4151